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The Necessity of Economics: The Preferential Option for the Poor, Markets, and Environmental Law

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ARTICLE

THE NECESSITY OF ECONOMICS: THE PREFERENTIAL OPTION FOR THE POOR, MARKETS, AND ENVIRONMENTAL LAW

ANDREW P. MORRISS*

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If we care for the poor and we care for the environment, what are we to do? Is the proper path to follow to turn to the state, passing laws that mandate that others share in our concerns? Several of the speakers at the “Peace with Creation” symposium at the University of St. Thomas School of Law (where the talk on which this article is based was first delivered) must believe so, as I have heard calls for international treaties to address climate change, publicly provided medical care, subsidies for small scale agriculture, and a host of other government programs to redress the problems of the poor and the environment.¹ My fellow participants who call for state action, and many in the wider debate as well, do so with the best of motives and using powerful language from the rich heritage of Christian social thought generally and from Catholic social teaching specifically. Their calls for expanding the scope of the state are mistaken, however, for they fail to consider the truths about human behavior that economists have discovered. I do not propose to substitute *The Wealth of Nations* for the Gospels; rather I propose to understand our Gospel-derived obligations in light of the insights of Adam Smith. If we fail to do so, we risk substituting symbolism for effective action and *feeling* good for *doing* good. If our obligation toward God’s creation is to *be* good stewards and our obligation toward the poor is to *do* charity, then our good intentions will not suffice when called to account for our ineffectual or counter-productive actions when more effective courses of action were open to us.

Thomas Woods, Jr., an author whose work I greatly admire, opens his remarkable book *The Church and the Market: A Catholic Defense of the Free Economy* with a chapter entitled “In Defense of Economics.”² It is unfortunate that virtually every claim of relevance for economics within a discourse among Christians is compelled to begin with such a defense. Instead of a defense, I am going to begin with the assertion that economics is not only *relevant* to our discussion of the preferential option for the poor and the environment, but it also is *essential* to that discussion. In short, I will make the somewhat radical claim that unless we understand economics

1. See John Hart, *The Poor of the Planet and the Planet of the Poor: Ecological Ethics and Economic Liberation*, 5 U. ST. THOMAS L.J. 144 (2008); Lucia A. Silecchia, *The “Preferential Option for the Poor”: An Opportunity and a Challenge for Environmental Decision Making*, 5 U. ST. THOMAS L.J. 87 (2008).

2. THOMAS E. WOODS, JR., *THE CHURCH AND THE MARKET: A CATHOLIC DEFENSE OF THE FREE ECONOMY* 13–39 (2005).

and apply economic reasoning to environmental problems, not only will we fail to solve those environmental problems, but we will also fail to satisfy our Christian obligation to provide a preferential option for the poor.

I do not think this actually *is* a radical claim, but it *sounds* radical because the environmental policy debate usually proceeds on terms that cast markets as environmental villains. The tenor of the debate has changed a little as of late, in part due to the impact of economists like Wheaton College economist P.J. Hill, my colleague at the Property and Environment Research Center (PERC) and a particularly thoughtful thinker about the intersection of Christianity, economics, and the environment.³ This change is also due to the work of Rev. Robert Sirico and his colleagues at the Acton Institute.⁴ It has not changed enough, however, to make the environmental policy debate sufficiently realistic such that environmental law has a chance of positively affecting the lives of the poor and improving our stewardship of God's creation, as our discussion at the symposium suggested. Beginning with some basic economic truths, which I will then apply to environmental problems and to the problems of the poor, I will conclude by defending my claim that economics is necessary, but not sufficient, to addressing environmental policy while also giving due attention to the needs of the poor.

SOME ECONOMIC TRUTHS

Economics offers many insights into how the world around us works, much more than would be possible to summarize even in a full-length law review article with many footnotes.⁵ From among those many insights, I have selected three "propositions" that demonstrate the fundamental points that economics is necessary, but not sufficient, to address environmental issues and that economics is necessary, but not sufficient, to reconcile the obligations of faith toward the poor and the need to protect the environment.

By "propositions" I mean fundamental truths about human behavior and the natural world that we ignore at our peril, truths as basic as the laws of gravity or humanity's susceptibility to sin. We can write statutes or regulations that ignore these—and Congress, legislatures, and regulators the world over frequently do—but such measures risk the same fatal results as bridges built without accounting for gravity. These propositions I will offer are economic "theory," but they are theory in the sense that the laws of

3. See, e.g., Peter J. Hill, *Environmental Theology: A Judeo-Christian Defense*, 3 *MARKETS & MORALITY* 158 (2000).

4. See, e.g., Rev. Robert A. Sirico, *Our Stewardship Mandate*, *RELIGION & LIBERTY*, Mar.-Apr. 1997, at 15.

5. Even St. John the Theologian noted in his Gospel that "[a]nd there are also many other things which Jesus did, which if they were written in detail, I suppose that even the world itself would not contain the books that would be written." *John* 21:25.

gravity are a theory and are founded upon economic insights spanning hundreds of years of careful analyses, testing of hypotheses, and rigorous debates. That does not mean all economists agree on all policy implications or that every prediction by an economist comes true. It does mean that the core principles of the discipline are not mere matters of opinion and that economics is not a “point of view” to be accorded equal weight with folk tales or political preferences. All theories of how the world works are not equal—some work better than others and the ones that work deserve greater weight in policy debates than the ones that do not. Economics’ great strength is that it is a concise and powerful theory that explains the world remarkably well. Those who ignore its insights are doomed to fail.

Proposition 1: TANSTAAFL

Science fiction author Robert Heinlein coined the phrase “TANSTAAFL” as a shorthand way of saying “There Ain’t No Such Thing As A Free Lunch” in his classic 1966 science fiction novel *The Moon is a Harsh Mistress*, in which he described a revolution by residents of lunar colonies against oppressive governments on Earth in 2076.⁶ Heinlein had the revolutionaries emblazon TANSTAAFL on their flag and wove the principle through the free lunar society he imagined—a place where even air cost people money.

“No free lunch” means that everything costs something. Everything. No exceptions. At a minimum, if I spend my time doing one activity, I cannot spend that time doing something else. Economists refer to the idea that resources devoted to one activity are unavailable for other activities as “opportunity cost.” If we do X, we cannot use those resources to do Y. The failure to recognize that there is an opportunity cost to committing resources to any given use can have disastrous consequences because when we do not recognize that our actions have costs we cannot intelligently consider our alternatives. And if we cannot assess the costs and benefits of our alternatives, we cannot make reasoned choices among them.⁷ In short, tradeoffs matter, and we need to pay attention to them.

We live in a post-Fall, resource constrained society. In the language of Economics 101, we face a choice between guns and butter. If we buy more guns, we have fewer resources left for butter. The same principle applies whether we are considering individual choices or social choices about the

6. ROBERT A. HEINLEIN, *THE MOON IS A HARSH MISTRESS* 162 (Orb Books 1997) (1966). For an examination of the underlying legal implications of the novel, see Dmitry N. Feofanov, *Luna Law: The Libertarian Vision in Heinlein's The Moon is a Harsh Mistress*, 63 TENN. L. REV. 71 (1995).

7. Bjorn Lomborg makes this argument in his book on global warming: “Far from being amoral to compare costs and benefits, it is crucially moral to ask, How do we help the most? Can it really be moral to do anything less?” BJORN LOMBORG, *COOL IT: THE SKEPTICAL ENVIRONMENTALIST'S GUIDE TO GLOBAL WARMING* 135 (2007).

allocation of tax dollars. Because we live in a world of scarce resources, we must choose between competing uses of our resources. Just as individuals do, so too must regulators make such choices.

There are many environmental examples of TANSTAAFL in action; I will briefly mention one concerning private choices and one concerning public choices. The private choice example involves the Nature Conservancy, an environmental group which engages in efforts to protect the environment by acquiring environmentally sensitive land.⁸ The group contracts for oil and gas production and logging on some properties, generating income that can be used for additional preservation efforts elsewhere.⁹ These transactions occur because the group recognizes the opportunity cost of not developing the land—in short, TANSTAAFL. The Nature Conservancy must either engage in some economic use of its land that can generate such revenues or forego the opportunity for revenues that would enable it to further its mission. In some cases, limited development provides the organization with the resources to have a greater impact by allowing it to acquire more land elsewhere.

The public choice example is the aftermath of the Supreme Court's decision in *Lucas v. South Carolina Coastal Council*.¹⁰ The state agency issued regulations that prohibited property owner David Lucas from building on two beach front properties he owned. Lucas sued, arguing that the regulations had taken his property under the Takings Clause because they effectively foreclosed all development. The Supreme Court agreed, and the Commission was forced to purchase the property from Lucas. Because of opportunity costs, paying for the property meant that the Commission had fewer resources available for its other activities. Ironically, once it bore the opportunity cost, the Commission determined that the additional environmental benefit of preventing construction on Lucas' property was not worth the cost and sold the land to a builder, who constructed homes on the property.¹¹ Faced with the opportunity cost of its behavior, the agency was forced to make decisions about its priorities.

8. The Nature Conservancy is controversial because of issues surrounding both its spending and its fundraising. See Joe Stephens & David B. Ottaway, *Image is a Sensitive Issue*, WASH. POST, May 4, 2003, at A23, for a discussion of an internal memo from the group in response to the *Washington Post* series that showed that the organization was "worried that the charity would be portrayed as if it had 'systematically colluded with wealthy individuals and corporations to conduct land transactions that manipulate the tax code to the benefit of the affluent' and that it would appear to be an 'environmental Enron.'"

9. Monte Burke, *Eco-Pragmatists*, FORBES (Sept. 3, 2001), available at <http://www.forbes.com/forbes/2001/0903/063.html>.

10. *Lucas v. South Carolina Coastal Council*, 505 U.S. 1003 (1992).

11. For the development history of the plot as graphically illustrated by economics professor William Fischel in his web essays, see William Fischel, *A Photographic Update on Lucas v South Carolina Coastal Council: A Photographic Essay*, available at <http://www.dartmouth.edu/~wfischel/lucasupdate.html>; and William Fischel, *Lucas v South Carolina Coastal Council: A Photographic Essay*, available at <http://www.dartmouth.edu/~wfischel/lucasessay.html>; see also DAVID

Proposition 2: Incentives matter

In general, when something is more expensive, people buy less of it and when it is less expensive, they buy more of it.¹² Thus incentives matter: when costs go up or down, people make different choices. In other words, demand curves slope down, and supply curves slope up. I wish that stating a simple truth like this as a “proposition” was seen as silly because of the now-universal acceptance of its self-evidence, but environmental laws in particular seem to have been written not only in ignorance of the truth and importance of supply and demand, as if economic incentives did not matter at all.

The Endangered Species Act (ESA) is perhaps the best known example of a law that ignores the importance of incentives.¹³ The case of the red-cockaded woodpecker is an excellent example of why taking incentive effects of regulatory efforts into account is critical to accomplishing statutory goals.¹⁴ Economists Dean Lueck and Jeffrey Michael examined private timber land owners’ management decisions in an area of North Carolina where the woodpeckers lived.¹⁵ Their results exemplify the impact of incentives. When red-cockaded woodpecker nests were found on private land, ESA regulations required a series of steps to protect the nests which cost the

LUCAS, LUCAS VS. THE GREEN MACHINE (1995) (Lucas’ own account); Dana Beach & Kim Diana Connolly, *A Retrospective on Lucas v. South Carolina Coastal Council: Public Policy Implications for the 21st Century*, 12 SE. ENVTL. L.J. 1, 14 (2003) (describing post-decision purchase and sale). Cf. Vicki Been, *Lucas v. The Green Machine: Using the Takings Clause to Promote More Efficient Regulation?*, in PROPERTY STORIES 221 (Gerald Korngold & Andrew P. Morriss eds., 2004) (a more skeptical account of the Lucas property’s history).

12. In two special cases, an increase in price induces an increase in demand. The first concerns a class of luxury goods, sometimes termed “Veblen goods” after economist Thorstein Veblen. Higher prices make these goods more desirable, because possessing them signals the owner’s wealth and status. See THORSTEIN VEBLEN, *THE THEORY OF THE LEISURE CLASS* 85 (1899); Laurie Simon Bagwell & B. Douglas Bernheim, *Veblen Effects in a Theory of Conspicuous Consumption*, 86 AM. ECON. REV. 349, 350 (1996). The other class of such goods is “Giffen goods,” in which the interaction of substitution and income effects produces an increase in demand. The only empirical evidence of the existence of such goods is in the context of poor consumers attempting to maintain subsistence consumption levels when prices rise. See Robert T. Jensen & Nolan H. Miller, *Giffen Behavior: Theory and Evidence* (Nat’l Bureau of Econ. Research, Working Paper No. 13243, 2007). The classic example of this is low quality foods. When the price of poor quality bread increases, low income buyers must spend more of their income maintaining their consumption level of the poor quality bread. *Id.* As a result, they have less money left over to buy better quality bread, and so increase their consumption of the low quality bread to replace the better quality bread they can no longer afford. See Michael V. White, *Invention in the Face of Necessity: Marshallian Rhetoric and the Giffen Good(s)*, ECON. REC., Mar. 1990, at 1. Neither is relevant to the discussion of environmental goods and services.

13. See Andrew P. Morriss & Richard L. Stroup, *Quartering Species: The ‘Living Constitution,’ the Third Amendment and the Endangered Species Act*, 30 ENVTL. L. 769 (2000).

14. One reason it is repeatedly discussed is that there is a shocking lack of social science research into the incentive effects of the ESA. See Jonathan H. Adler, *Money or Nothing: The Adverse Environmental Consequences of Uncompensated Land-Use Controls*, 49 B.C. L. REV. 301 (forthcoming 2008).

15. Dean Lueck & Jeffrey A. Michael, *Preemptive Habitat Destruction under the Endangered Species Act*, 46 J.L. & ECON. 27 (2003).

landowners considerable timber revenue—a single colony could cost a landowner up to \$200,000 in potential revenue.¹⁶ Because red-cockaded woodpeckers prefer to build nests in older pine trees, harvesting timber before the trees reach the age at which the birds nest in them greatly reduces the chances of a nest being built. And, of course, harvesting timber of any age before a colony's presence is documented, and the regulations applied, eliminates the potential losses from regulatory enforcement. What Lueck and Michael found was that proximity to an existing red-cockaded woodpecker colony led to a higher probability of both timber harvesting in general and of the harvesting of younger trees in particular. In short, because the ESA-regulations made the presence of red-cockaded woodpeckers costly to them, landowners took steps to reduce the likelihood that the woodpeckers would establish a presence on their land. Note that all the steps the landowners took to prevent woodpecker colonization were entirely legal, but the ESA incentives had created an incentive to "shoot, shovel, and shut up."¹⁷

This result is remarkable only in the context of discussions of whether environmental laws create bad incentives. Environmental pressure groups routinely make incentive-based arguments when arguing for the need for additional laws. For example, they often argue that without penalties and permit regulations, firms will dispose of wastes through smokestacks and pipelines, polluting the air and water. Only when the same logic is applied to the impact of environmental statutes, particularly ones as symbolically important as the Endangered Species Act, is the application of economic logic labeled as illegitimate. But to deny that incentives matter is as foolish and counterproductive as to deny that gravity causes objects to fall when they are dropped.

Proposition 3: The margin matters

Regrettably, political discourse often casts decisions in terms of absolutes, with all the nuance and insight of a bumper-sticker: "Extinction is forever;" "save the whales;" or "protect our natural resources." But most choices are not made between absolutes or extremes; most are made at the margins. We are only rarely confronted with either/or choices. Most of the time we must decide between allocating a little more of our (or someone else's) time, money, or other resources to this activity or that. Should we increase the habitat for the red-cockaded woodpecker by adding this parcel to the protected area or not? Should we reduce ambient air levels of ozone from 0.09 parts per million (ppm) to 0.08 ppm? And at the margin, incentives are particularly important.

16. *Id.* at 33.

17. Robert H. Nelson, *Shoot, Shovel, and Shut Up*, FORBES, Dec. 4, 1995, at 82.

The discovery that margins matter was no small thing. Historians of economic thought term the beginning of systematic consideration of marginal analysis in the late nineteenth century the "marginal revolution."¹⁸ Nonetheless, the key to marginal analysis is straightforward: when the next increment of an activity yields benefits in excess of its costs, there is an incentive to engage in more of the activity. The second proposition instructs us that when the last increment costs more than its benefits, there is an incentive to engage in less of the activity. As a result, individuals adjust their consumption and production of goods and services in response to the marginal costs and benefits of those goods and services. When deciding whether to buy more of good A or good B, if the net marginal benefit of another unit of good A exceeds the net marginal benefit of another unit of B, people will buy the additional unit of A instead of the additional unit of B. Decisions in the environmental context are regularly made on the margin in setting ambient environmental quality standards, emissions levels, activity levels, and so forth.

What happens when we make decisions without considering margins? There are multiple errors introduced by not thinking about margins, but one illustrative example will make the point. Not considering marginal costs and benefits means that we do not get the maximum environmental quality possible for a given expenditure level. In the 1970s and early 1980s, the EPA repeatedly considered whether to adopt a "bubble" policy for air emissions from multiple points within a single facility.¹⁹ In essence, the policy question was whether the words "stationary source" in various sections of the Clean Air Act meant a single smokestack or could be interpreted to lump together all the smokestacks in an entire facility. Economists argued that allowing the facility to be treated as a single unit would result in more cost-effective pollution control because the marginal cost of emissions reductions would differ across smokestacks. If the entire group of stacks in a facility were treated as a single stationary source, the plant owner would reduce emissions where it was cheapest to do so, yielding the same total emissions reduction at a lower cost. Treating each smokestack as a separate stationary source, on the other hand, would result in higher costs but no greater emissions reductions. Failing to consider margins increased the cost of environmental protection. (The legal debate over these issues—which produced the landmark *Chevron* decision—properly did not address the economics, as Congress had neglected to do so in writing the statute.)

18. See THE MARGINAL REVOLUTION IN ECONOMICS: INTERPRETATION AND EVALUATION (R.D. Collison Black et al. eds., 1973).

19. After two D.C. Circuit decisions by different panels, one rejecting the bubble concept in Clean Air Act new source context, *ASARCO Inc. v. EPA*, 578 F.2d 319 (D.C. Cir. 1978), and the other approving it in the Clean Air Act's "prevention of significant deterioration" context, *Alabama Power Co. v. Costle*, 636 F.2d 323 (D.C. Cir. 1979), the Supreme Court approved it in the context of EPA consideration of state implementation plans. *Chevron, U.S.A., Inc. v. Natural Resources Defense Council*, 467 U.S. 837 (1984).

Perhaps much of this seems obvious. I hope so. Fundamental economic principles *are* obvious because they describe what we all know from our day-to-day lives to be true. More importantly, since we are here to discuss a Christian perspective on the environment and the poor, none of them are incompatible with either a general Christian or a specifically Catholic view of human nature. The compatibility of the essentials of economics with Christian teachings is something that is hotly debated, and I certainly don't want to assert that every Christian or even every Catholic theologian is at heart a fan of markets. But market economics have a distinguished history in Christian and Catholic thought. For example, the Spanish Scholastics (the School of Salamanca) built on the writings of Saint Thomas Aquinas to develop extended treatments of many economic issues and had considerable influence on thinkers like Grotius, Samuel Pufendorf, and the Physiocrats and, via those thinkers, an impact on Scottish Enlightenment figures including Adam Smith.²⁰ And ever since Pope Leo XIII's encyclical *Rerum Novarum* in 1891, Catholic social teaching on economics has consistently affirmed the legitimacy of the market, albeit with more qualifications and with somewhat less enthusiasm than Catholic and other free marketers might prefer.²¹

From my own amateur and relatively untutored position as a lay Orthodox Christian, I find a comforting convergence between the dictates of faith and the dictates of economics. TANSTAAFL simply points out that choice among alternatives is a fundamental fact of existence, and I find in Christian teaching a guide to making choices. Both the Old and New Testaments are filled with examples of incentives making a difference,²² and marginalism is fully compatible with the nature of choices we face. Indeed, as humans touched by original sin, we had best hope that God does not demand absolutes and that He will view choices for good on the margin as counting in our favor on Judgment Day.

ECONOMICS AND THE ENVIRONMENT

When we apply economic principles to the environment, we discover that economics offers considerable guidance in how to best protect the envi-

20. ALEJANDRO A. CHAFUEN, FAITH AND LIBERTY: THE ECONOMIC THOUGHT OF THE LATE SCHOLASTICS 14–16 (2003).

21. See WOODS, *supra* note 2, at 1–3 (discussing Papal critiques of the market while noting essential affirmation of the essentials of market economics).

22. God's covenant with Israel in *Exodus* 19 is built around incentives. If the people of Israel agreed to "obey my voice indeed, and keep my covenant," God offered them status as "a peculiar treasure to me above all people." *Exodus* 19:5. In the New Testament, Christ's parable of the Wicked Vinedressers is a classic case of mistaken beliefs about incentives. *Matthew* 21:33–46. The people who kill the servants and heir of the vineyard owner incorrectly believe that they can take the heir's inheritance by their actions. Instead, of course, the owner of the vineyard will "put those wretches to a miserable death" and give the vineyard to other tenants. *Id.* Had the tenants correctly perceived their incentives, as the parable is designed to teach us to do, they would have yielded up the fruits of the harvest to the landlord and received a much greater reward.

ronment, as well as sheds light on why environmental problems occur and why some regulatory efforts have failed to produce the promised results. Three core insights from economics for environmental policy capture the contributions that economic analysis can make to environmental policy debates.

Proposition 4: Private property rights create incentives for responsible stewardship of resources.

Garrett Hardin's 1968 article *The Tragedy of the Commons* has had a tremendous influence on environmental law.²³ My Westlaw search of the Journals and Law Reviews database turned up almost 1200 citations, an impressive total considering that much of Hardin's influence occurred before law review articles were included in the electronic library. Less often discussed is the fact that Hardin got his facts wrong with respect to the medieval English village commons from which he drew the central metaphor.²⁴ (Even less frequently mentioned is that Hardin's article was primarily an argument for authoritarian measures to limit population growth.)²⁵ Nonetheless, *The Tragedy of the Commons* has become the paradigm through which a multitude of environmental problems are viewed.

One of Hardin's most important conclusions was that "private property or something formally like it" was a solution to commons' problems.²⁶ Property rights solve the tragedy of the commons because they provide property owners with the incentives to treat their land responsibly. Hardin's metaphor began with villagers deciding how many cattle to put on the common pasture. Each villager received all the benefit of each cow he added, since the cattle were privately owned. But since the pasture was held in common, each villager bore only a portion of the costs of the cattle, since the cattle ate grass belonging to all. Once the carrying capacity of the common pasture was reached, the net benefit to the village of adding an additional cow to the pasture was negative due to the impact of overgrazing on the existing cattle, while the net private benefit remained positive. When the commons was privatized, however, the owner of the pasture would not ex-

23. Garrett Hardin, *The Tragedy of the Commons*, Sci., Dec. 1968, at 1243.

24. Historically, villagers were limited by "stinting" rights, which governed the number of cattle each landowner could add to the pasture. See ELINOR OSTROM, GOVERNING THE COMMONS: THE EVOLUTION OF INSTITUTIONS FOR COLLECTIVE ACTION 224 n.3 (1990).

25. Hardin, *supra* note 23, at 1248 ("Freedom to breed will bring ruin to all The only way we can preserve and nurture other and more precious freedoms is by relinquishing the freedom to breed, and that very soon.")

26. *Id.* at 1245. As Prof. Adler notes,

Hardin's reluctance to call for broader property rights in other environmental resources, such as air and water, stemmed from his belief that such resources 'cannot be readily fenced,' not out of any concern that the power of property rights to promote sound resource use was limited to farmlands and pastures.

Jonathan H. Adler, *Back to the Future of Conservation: Changing Perceptions of Property Rights & Environmental Protection*, 1 N.Y.U. J. L. & LIBERTY 987, 1021 n.269 (2005).

ceed the carrying capacity of the pasture since the private and social benefits were now identical. Private property thus prevents the tragedy of the commons.

We observe such solutions with respect to many common resources. The use of individual tradable quotas in fisheries,²⁷ customary allocation of lobstering rights by Maine "lobster gangs,"²⁸ and customary range rights enforced by cattlemen's associations on open ranges²⁹ are just a few of the examples. In general, property rights solve the commons problem because they give the owner the incentive to maximize the total stream of benefits from his property, including its future value. Since poor management of a resource reduces the net present value of the stream of future benefits from a resource, even an owner who is ignorant of appropriate resource management has an incentive to learn to do better, to hire someone who knows better methods, or to sell to someone who knows better management techniques because doing so increases the value of the resource to the owner himself.

Moreover, private property rights allow the fullest exploitation of local knowledge. Economist Friedrich Hayek's seminal 1945 article, *The Use of Knowledge in Society*,³⁰ pointed out the critical importance of the knowledge each individual has. When resource management decisions are made by people other than the resource owner, there is an inevitable loss of such knowledge. Hayek argued that local knowledge was sufficiently important that it precluded centralized economic planning;³¹ his critique is equally relevant to centralized environmental planning. In 1945, Hayek noted that much of economic analysis assumed "all the relevant information," a known system of preferences, and "complete knowledge."³² As a result, the problem of allocation of resources became "purely one of logic" because "the answer to the question of what is the best use of the available means is implicit in our assumptions."³³ This characterization of the "economic problem" missed the point, Hayek argued, because "[t]he peculiar character of the problem of a rational economic order is determined precisely by the

27. See Jonathan H. Adler, *Legal Obstacles to Private Ordering in Marine Fisheries*, 8 ROGER WILLIAMS U. L. REV. 9, 18–22, 40–41 (2002); Jonathan H. Adler, *Conservation through Collusion: Antitrust as an Obstacle to Marine Resource Conservation*, 61 WASH. & LEE L. REV. 3, 17–20 (2004) (discussing success of individual tradable quotas programs).

28. See JAMES M. ACHESON, *THE LOBSTER GANGS OF MAINE* (1988) (describing informal property rights system used to allocate lobster fishing areas and prevent overharvesting).

29. See Andrew P. Morriss, *Miners, Vigilantes & Cattlemen: Overcoming Free Rider Problems in the Private Provision of Law*, 33 LAND & WATER L. REV. 581 (1998); TERRY L. ANDERSON & PETER J. HILL, *THE NOT SO WILD, WILD WEST: PROPERTY RIGHTS ON THE FRONTIER* 148–58 (2004).

30. Friedrich A. Hayek, *The Use of Knowledge in Society*, 35 AM. ECON. REV. 519 (1945).

31. *Id.* at 524 ("[C]entral planning based on statistical information by its nature cannot take direct account of these circumstances of time and place . . .").

32. *Id.* at 519.

33. *Id.*

fact that the knowledge of the circumstances of which we must make use never exists in concentrated or integrated form, but solely as the dispersed bits of incomplete and frequently contradictory knowledge which all the separate individuals possess."³⁴

Local knowledge is relevant to a wide variety of environmental problems. Polluters have considerable local knowledge about their production processes and other details of their facilities that provide them with important advantages in finding ways to reduce emissions. Landowners have local knowledge about their land that allows better stewardship. Fishermen familiar with a particular stream often know river conditions better than distant planners. This does not mean that outsiders have nothing to contribute to environmental debates—governments often have the resources to produce and distribute scientific knowledge that improves decision making, for example. What it means, however, is that better results often come from leaving resources in private hands and offering incentives for improved environmental results, rather than attempting to dictate the method of achieving environmental goals.

Private property rights are certainly compatible with Christian doctrine, and the Spanish Scholastics offered justifications for private property that are remarkably similar to the economic analysis of the commons problem. For example, Tomas de Mercado argued that:

We cannot find a person who does not favor his own interests or who does not prefer to furnish his own home rather than that of the republic. We can see that privately owned property flourishes, while city- and council-owned property suffers from inadequate care and worse management. In this regard, Aristotle states that the pleasure that a man feels while working at his own business is inevitable. It is not easy to explain how important it is for man to know that he is the owner of the thing he produces. On the other hand, people treat common enterprises with great indifference. . . . After man's loss of innocence, it becomes necessary for each individual to share in the things of this world, in real estate or movable riches. . . . If universal love will not induce people to take care of things, private interest will. Hence, privately owned goods will multiply. Had they remained in common possession, the opposite would be true.³⁵

The conclusion seems inescapable that if we are to solve commons problems, we must resort either to "private property or something formally like it" or to the type of authoritarian solutions that Hardin suggested in his article were necessary to prevent over-population. Between those alternatives, the choice seems remarkably easy.

34. *Id.*

35. TOMAS DE MERCADO, *SUMMA DE TRATOS Y CONTRATOS* bk. 2, chap. 2, fol. 19 (Seville, 1571), *quoted in* CHAFUEN, *supra* note 20, at 34–35.

Proposition 5: Markets allow minority preferences to be satisfied.

Modern American environmental activists often have a peculiar gap in their historical memories. They recall Eden-like conditions that prevailed in North America before the arrival of European settlers with startling clarity—clarity that is all the more startling because their recollections are often of conditions that never existed.³⁶ They often do not recall that earlier generations were just as concerned about the environment as they are today, albeit with different preferences shaped by both different world views and different resources. One particularly dramatic class of prior environmental management decisions that are now generally believed to have been significant mistakes were the predator eradication programs popular in the late nineteenth and early twentieth centuries.³⁷ Eradication of wolves in the west and eradication of raptors more generally were steps undertaken by people concerned with the environment and intent on “improving” it. That we now believe they were wrong does not alter the fact that these earlier managers of the environment believed they were behaving as responsible stewards of the land.

Control of predators, particularly wolves and raptors, was undertaken with public support and public resources.³⁸ Bounties were paid, habitat destroyed, and animals and birds slaughtered by the thousands in an effort to “improve” the environment. Not everyone agreed that eradicating predators was a good idea, however, and a few individuals were able to use private funds to lease and purchase crucial habitat to sustain the threatened species. In Pennsylvania, Rosalie Edge saved vital hawk breeding territories by first leasing and ultimately purchasing them in private transactions. Using her market-acquired property rights, she established the Hawk Mountain reserve and not only saved the area’s hawks from slaughter but contributed to changing public opinion about the desirability of raptor eradication.

Had the question of raptor eradication been put to a vote in 1900, it is likely that a majority of Americans would have endorsed it as an environmentally sensible public policy goal. But because economic markets, unlike political markets, are not winner-take-all forums, those who dissented from the majority view were able to satisfy their own preferences by acting in the marketplace.

When markets are not allowed to function, however, minority preferences are often overridden with environmentally dangerous consequences.

36. See Robert H. Nelson, *Environmental Religion: A Theological Critique*, 55 CASE W. RES. L. REV. 51, 69–71 (2004) (discussing attempts to restore forests to “pre-European” conditions).

37. See HANK FISCHER, WOLF WARS 17–23 (1995) (discussing history of wolf eradication programs); Andrew P. Morriss & Roger E. Meiners, *Property Rights, Pesticides, & Public Health: Explaining the Paradox of Modern Pesticide Policy*, 14 FORDHAM ENVTL. L.J. 1, 16–22 (2002) (discussing pesticide spraying programs).

38. See Andrew P. Morriss & Roger E. Meiners, *The Destructive Role of Land Use Planning*, 14 TUL. ENVTL. L.J. 95, 128–29 (2000) (detailing the Hawk Mountain story).

To take but one example, consider the aerial spraying of pesticides to control the gypsy moth on Long Island, New York in the late 1950s and early 1960s.³⁹ Federally funded efforts to eradicate the pest led to blanket spraying of private and public land alike, despite the extremely limited nature of the infestation. Landowners who objected, including bird enthusiasts and organic farmers, repeatedly sought relief in the courts to stop the spraying of their property. Their objections were overridden as the court held: "[t]he rights of individuals are not limitless. Individuals must yield to the requirements of the public as a whole."⁴⁰

These specific examples illustrate a general principle: environmental policies are rarely simple "yes/no" choices. Disagreements over the appropriate approach to an environmental issue regularly appear and the "right" answer often changes over time as new information appears, new theories are tested, and new approaches discovered. An important advantage of market-based solutions is that they allow multiple approaches to coexist, both with respect to finding the best way to an agreed goal and with respect to satisfying a diverse set of preferences for environmental goods. Unless we are extremely confident that we know *the* truth, allowing a diversity of preferences and approaches is likely to be the best approach in the long run. The historical record suggests that allowing minority preferences like Rosalie Edge's love of hawks to be satisfied through market transactions produces environmentally superior outcomes. Unfortunately, sometimes we confuse our knowledge of eternal Truths such as the divinity of Christ with our imperfect knowledge of the world in which we live today. Assuming that our generation has found the depth of knowledge necessary to dictate how everyone is to behave seems inconsistent with St. Peter's injunction that we "be clothed with humility."⁴¹

Proposition 6: Rent-seeking is pervasive in environmental regulation.

Psalm 146 cautions to "[p]ut not your trust in princes, nor in the son of man."⁴² The economic analysis of politics in general and of environmental regulation in particular, reinforces this lesson.⁴³ "Economic rents" are payments that go beyond the cost of providing a service.

Most people spend a considerable amount of their lives looking for rents. We all want to be paid more than enough to get us to work each day. We are rent-seekers, one and all. Seeking rents in the political arena can have a higher payoff than seeking rents in

39. See Morriss & Meiners, *supra* note 37, at 16–22 (discussing Long Island pesticide spraying controversy).

40. *Murphy v. Benson*, 164 F. Supp. 120, 128 (E.D.N.Y. 1958).

41. 1 *Peter* 5:5 (King James).

42. *Psalm* 146:3 (King James).

43. See DENNIS C. MUELLER, *PUBLIC CHOICE III* (2003) for a summary of public choice theory.

the world of work. The reason is simple: With the stroke of a pen a politician can cause vast amounts of resources to be transferred from taxpayers or consumers to the providers of politically favored services. For example, reducing automobile exhaust emissions improves air quality. How is a regulator to do so? By specifying that all automobiles must have catalytic converters to reduce emissions brought huge profits to the owner of patents on key technology, which happened to be General Motors. Air quality improves and GM makes more money.⁴⁴

Thus despite lofty language in some environmental statutes setting unrealistic zero discharge goals,⁴⁵ environmental regulation largely consists of the distribution and redistribution of valuable rights by regulators.⁴⁶ For example, when regulators restrict construction on some beachfront lots, they increase the value of neighboring lots where construction is allowed by limiting the supply of beachfront property.⁴⁷ Allocations of emissions rights to particular sources provides the recipients with valuable legal rights and I have argued elsewhere that car and truck manufacturers are engaged in a competition with stationary sources for emissions rights in the context of the Clean Air Act's State Implementation Plans.⁴⁸ Because of the value of these rights, people are willing to invest considerable resources to obtain them. If the rights are allocated through the marketplace, those investments will be made by paying the seller for the rights. If the rights are distributed through the political process, however, the only way to influence their allocation is to influence the political process. Interest groups that can profit from the allocation of rights will thus seek to influence rights distribution by influencing legislators and regulators.

Interest groups need not resort to anything as crude as outright bribery to gain influence. Even the most publicly-minded candidate must accumulate significant funds to gain election or reelection and doing so generally requires providing interest groups capable of delivering those funds with something. The result is that interest groups and political considerations play considerable roles in environmental policy. Examples range from the classic "Clean Coal / Dirty Air" coalition of environmental groups and eastern coal interests during the debate over the 1977 Clean Air Act Amendments that produced statutory provisions that disadvantaged cleaner western coal relative to more polluting eastern coal⁴⁹ to the legendary clout of

44. ANDREW P. MORRISS, BRUCE YANDLE & ANDREW DORCHAK, *REGULATION BY LITIGATION* (forthcoming 2008).

45. 33 U.S.C. § 1251(a)(1) (1977) ("[I]t is the national goal that the discharge of pollutants into the navigable waters be eliminated by 1985.").

46. See Andrew P. Morris, *The Politics of the Clean Air Act*, in *POLITICAL ENVIRONMENTALISM: GOING BEHIND THE GREEN CURTAIN* 263 (Terry L. Anderson ed., 2000).

47. See note 11 and associated text *supra* discussing the facts of the *Lucas* case.

48. See Morris, *supra* note 46 (discussing this competition).

49. BRUCE A. ACKERMAN & WILLIAM T. HASSLER, *CLEAN COAL/DIRTY AIR* (1981).

Michigan Rep. John Dingell, whose efforts on behalf of Detroit's auto makers produced the term "Dingell-gram" for the summonses he issued to regulators to appear before his committee to answer for regulations that harmed Detroit's interests.⁵⁰ Good government cannot be presumed to be the result of entrusting power to fallible men and women, for the human flaws that afflict private behavior are still present when those same individuals enter the public sector. As economist Rick Stroup has noted, the general problem is that good government is itself a public good and is thus underprovided in the marketplace.⁵¹

These second three propositions make the point that markets are not incompatible with the environment. That does not mean markets always produce the environmentally preferred outcome, however defined. It does mean that a market-based society that allows decentralized decision-making by holders of private property rights protected by tort, property, and contract law is not inherently problematic for environmental quality. But what about the poor? How will applying market principles affect them?

WHAT ABOUT THE POOR?

Catholic social thought and Christian social thought generally has produced a great deal of insight into Christians' obligations toward the poor.⁵² Economists also have a great deal to say about poverty and much of it consists of pointing out fallacies upon which anti-poverty policies often rest. For example, many people incorrectly believe that raising the minimum wage will improve the economic position of the poor.⁵³ A vast amount of empirical evidence supports this consensus.⁵⁴ It should not take a Ph.D. in economics to understand why raising the minimum wage is likely to hurt those without jobs by making hiring them more expensive, particu-

50. Richard J. Leon, *Congressional Investigations: Are Partisan Politics Undermining Our Vital Institutions?*, 31 SUFFOLK U. L. REV. 825, 827 (1997-98), stating:

And when one focuses on congressional oversight, nobody in the modern history of Congress was more admired, and feared, than . . . John Dingell. Congressman Dingell . . . conducted oversight investigations of the Environmental Protection Agency, the Food and Drug Administration, and other agencies, that to this day are legendary. Government employees used to quake in their boots when they received requests for information known as 'Dingellgrams' at their agencies.

51. Richard L. Stroup, *Free Riders and Collective Action Revisited*, 4 INDEP. REV. 485, 485 (2000) ("The formation and successful control of a government program in the public interest, for any reasonable definition of that nebulous term, are themselves public goods.").

52. As an Orthodox Christian, I am particularly glad that I share with my Catholic friends the sermons of St. John Chrysostom on the parable of Lazarus and the rich man, which predate the division between the Eastern and Western Churches. See ST. JOHN CHRYSOSTOM, *ON WEALTH AND POVERTY* (Catharine P. Roth trans., St. Vladimir's Seminary Press 1984), which is instructive on the dangers of wealth.

53. See WOODS, *supra* note 2, at 50-71 (a particularly instructive analysis of wage issues from a Catholic market perspective).

54. See Donald Deere, Kevin M. Murphy, and Finis Welch, *Sense and Nonsense on the Minimum Wage*, 18 REGULATION No. 1, at 47 (1995) (reviewing evidence on minimum wage impacts).

larly since the advocates of the federal minimum wage explicitly designed it to make certain types of employment uneconomical.⁵⁵ From the frequency with which raising the minimum wage is proposed as a solution to poverty, however, it appears that it does take a level of economic sophistication beyond that possessed by the average politician and, by implication, the average voter.

Let me stress that the issue is not the intentions behind efforts to help the environment that lead to bad outcomes for the poor. The question is whether such efforts actually help or harm. Bjorn Lomborg closes his book on global warming, *Cool It*, by saying

I hope we can look the coming generations squarely in the eyes and say that we didn't just do what seemed fashionably good; we massively and thoroughly changed the world for the better through simple, tested, and cool strategies. We didn't just do something that made us feel good; we did something that actually did good.⁵⁶

To effectively address the needs of the poor, we must adapt our efforts to the world, not attempt to force the world to fit within preconceived notions about how the world works. As Thomas Woods argues, quoting Gregory Gronbacher, "[t]here are fundamental market realities that cannot be ignored for any reason, including moral concerns, because, in so doing, further harm may result to both market mechanisms and morality." This critical point can no longer be overlooked. As Etienne Gilson put it, "Piety is no substitute for technique."⁵⁷ I will therefore address the question of the impact of market-based environmental solutions for the poor by offering three additional propositions that capture key insights of economic analysis on some of the most important aspects of environmental law.

Proposition 7: People with fewer resources do better in economic markets than they do in political markets.

The literature on the poor and the environment—which goes loosely by the name “environmental justice”—tends to focus on the location of pollution sources near poor neighborhoods, the alleged laxness of emissions standards near poor neighborhoods, and so forth. In addition to assuming

55. See Marc Linder, *The Minimum Wage as Industrial Policy: A Forgotten Role*, 16 J. LEGIS. 151, 155–56 (1989–90) (“[T]he appropriate response to the argument that the minimum wage hurts the very people it is supposed to protect is: the minimum wage helps those marginal workers by forcing their inefficient employers either to rationalize or to be driven out of business by more efficient competitors paying higher wages.”).

56. LOMBORG, *supra* note 7, at 164. Lomborg’s conscience should be clear on this score. His “Copenhagen Consensus” project has produced some of the clearest thinking about environmental priorities, taking into account scarcity and tradeoffs. See Copenhagen Consensus Center, Copenhagen Consensus 2008, <http://www.copenhagenconsensus.com/Default.aspx?ID=788> (last visited Feb. 6, 2008).

57. WOODS, *supra* note 2, at 9 (citations omitted).

that there is a zero, or perhaps even negative, sum game being played over the location of facilities (which I think is largely false—see my next proposition), these complaints miss an essential point: being poor (defined as not having resources) means you don't have the things that resources get you. Among those things that you don't have are nice locations for your housing. More importantly, it also means that you lack the resources to do well in both political and economic markets. What I want to argue now is that the poor do worse in political markets relative to economic markets, and so shifting decisions from the economic marketplace to the political marketplace disadvantages the poor relative to the rich.

In economic markets, the poor have few resources but they do have some resources. Businesses can make money by meeting the needs of the poor and often do. For example, Wal-Mart saves consumers money, which benefits the poor disproportionately⁵⁸ and does so through a strategy that targets price-conscious consumers. The poor may not get as much as the rich in the economic marketplace, but they do get something.

In contrast, the political marketplace discriminates heavily against the poor. It does so in many ways; let us consider just three. First, the political marketplace often makes winner-take-all decisions, unlike the economic marketplace which has room for both Wal-Mart and Nordstrom's. If only one set of preferences is going to be satisfied, it seems unlikely that it would be the preferences of the group with fewer resources. Second, most voters are rationally ignorant of the details of political proposals and political candidates' policies.⁵⁹ Correctly reasoning that their vote is unlikely to make a difference in the outcome of an election or a legislature's vote on a proposed law, voters rarely invest in becoming informed consumers of politicians to the same extent they invest in making a choice between a Ford and a Chevrolet. As a result, the public choice literature has documented the tendency of political markets to deliver benefits concentrated on a few at costs distributed to many. Again, the most likely winners in such a competition are those who can afford "access" to politicians, which comes at considerable cost. Finally, the political marketplace makes decisions in state capitals and Washington, D.C., locations that are remote from the lives of most Americans. (The same holds true in other nations, of course). Navigat-

58. See Jerry Hausman & Ephraim Leibtag, *Consumer Benefits from Increased Competition in Shopping Outlets: Measuring the Effect of Wal-Mart*, MIT and Economic Research Service, U.S. Dept. of Ag. Revised Draft (Oct. 2005), available at <http://econ-www.mit.edu/files/1765>.

59. See John O. McGinnis & Mark L. Movsesian, *The World Trade Constitution*, 114 HARV. L. REV. 511, n.63 (2000–01), stating:

Rational ignorance describes the systematic tendency of citizens to pay little attention to political information. The phenomenon occurs because acquiring information about politics is both costly and unproductive. It is costly because, to acquire such information, individuals must invest time that they could be using in other more lucrative or pleasurable enterprises. It is unproductive because, although the principal instrumental use of such information is to guide voting, the vote of any one individual is unlikely to influence the outcome of an election.

ing the corridors of power or deciphering the pages of the latest proposal in the *Federal Register* requires specialized expertise from lawyers and lobbyists, neither of which are readily accessible to the poor. Shifting decisions from the economic marketplace to the political marketplace disadvantages the poor.⁶⁰ Unfortunately, that is what many environmental laws and regulations do.

Moreover, governments have the means (coercion) to solve free rider problems. But their efficiency stems from being good at coercion, which overcomes free riding at relatively low cost. But that coercive power is dangerous precisely because it is so efficient. It tempts people to use it for their own benefit. Institutions that protect us from special interests' ability to divert the power of the state to their own benefit also reduce our ability to accomplish through the state laudable goals as well. For example, bicameralism is a fundamental part of the American system of government and guarantor of individual liberty, yet its method of protecting liberty is to deliberately make government inefficient.⁶¹

Nobel laureate James Buchanan, who won the prize for his innovations in public choice theory, debated the equally eminent public finance economist Richard Musgrave in a series of lectures in 1998. In the course of their debate, Buchanan summarized the difference between his point of view, which focuses on the dangers of unconstrained power, and Musgrave's, which focused on the potential provision of worthwhile public goods through a government solution of the free rider problem. Buchanan put it this way:

I raised this question: Don't you feel that under certain circumstances, you would want to constrain the government? And I said, for example, suppose you had a tiger, a pet tiger. Wouldn't you want to have a muzzle on that pet tiger in case he might bite somebody? So you put him on a muzzle. And Richard Musgrave said, oh I wouldn't want to do that because I might want the tiger to eat the grass.⁶²

If government is a tiger, and the great weight of the evidence suggests that governments' claws and teeth are sharp, then Buchanan's prescription of a muzzle is a vital caution. And the first to be bitten, after all, are hardly likely to be the rich and powerful, so this is a matter of concern for the

60. As Professor Hill noted to me in commenting on an earlier draft of this article, shifting decisions from the marketplace to politics is not only unlikely to help the poor given their relative disadvantages in the latter, but is likely to shift the balance of power even more in favor of the well-connected because the re-ordering of economic affairs sufficiently to change economic inequality requires a substantial increase in political power.

61. See *I.N.S. v. Chadha*, 462 U.S. 919, 958–59 (1983) (“In purely practical terms, it is obviously easier for action to be taken by one House without submission to the President; but it is crystal clear . . . that the Framers ranked other values higher than efficiency.”).

62. JAMES M. BUCHANAN & RICHARD A. MUSGRAVE, *PUBLIC FINANCE AND PUBLIC CHOICE: TWO CONTRASTING VISIONS OF THE STATE* 88–89 (1999).

poor. For example, a recent study by the Institute for Justice found that eminent domain powers exercised in pursuit of “economic development” are most often used against the poor,⁶³ evidence that the powers of the state are at best a two-edged sword for those concerned with the welfare of the powerless.

Proposition 8: Trade creates wealth.

The fundamental problem with being poor is that you are poor—that is, by definition, you lack resources. Not having resources is bad, at least in this life.⁶⁴ Market economies excel at creating economic growth, which makes everyone, including the poor better off.⁶⁵ The best way for people to stop being poor, therefore, is for them to live in a society in which economic freedom allows individuals to trade with one another without interference. This brings us to one of the most important contributions of economic theory: comparative advantage, which is the basis of trade. As Nobel laureate Paul Samuelson noted, comparative advantage is a proposition that is both true and nontrivial. Its truth can be established by mathematical deduction as well as through empirical studies. That it is non-trivial is “attested by the thousands of important and intelligent men who have never been able to grasp the doctrine for themselves or to believe it after it was explained to them.”⁶⁶

The implications of this for environmental law and policy is that it becomes important independently of the implications for environmental quality that environmental protection laws and regulations interfere to the smallest extent possible, consistent with achieving their goals, with the overall functioning of the economy. For example, suppose we can reach an air pollution goal either by mandating across-the-board reductions for all sources or through a tradable permit system that allows sources to reduce emissions beyond the across-the-board level and sell credits to other sources, who would then be relieved of the requirement to reduce to the across-the-board level. The former method costs more to implement than the latter method because it does not take into account differences in the

63. See DICK M. CARPENTER II & JOHN K. ROSS, INST. OF JUSTICE, VICTIMIZING THE VULNERABLE: THE DEMOGRAPHICS OF EMINENT DOMAIN ABUSE 6 (2007) (“Losses from eminent domain abuse ‘fall disproportionately on the poor,’ and particularly on minorities.”).

64. One response suggested by a commentator on an earlier draft is that there are plenty of people who think the poor are better off being poor and so it was necessary to specify a theory about what we want for the poor. I am assuming that the goal of concern for the poor is the alleviation of poverty. We may not succeed, but our obligation, like that of the rich man in the parable of Lazarus and the Rich Man from Luke’s Gospel, is to do our best to succeed.

65. GREGORY CLARK, A FAREWELL TO ALMS 3 (2007) (“There have been benefits [from economic growth following the Industrial Revolution] aplenty for the typically wealthy owners of land or capital, and for the educated. But industrialized economies saved their best gifts for the poorest.”).

66. PAUL ANTHONY SAMUELSON, THE COLLECTED SCIENTIFIC PAPERS OF PAUL A. SAMUELSON 683 (1972).

cost of reduction amongst sources. Environmentally the two methods of pollution control may produce identical outcomes, but the across-the-board method will reduce economic activity more than the latter. The cost of this foregone economic activity is likely to be disproportionately borne by the poor.

A classic example of how environmental policies that do not take market principles into account harm the poor is the impact of U.S. policies promoting ethanol on Mexico's poor. In large part because of the environmentally-driven⁶⁷ subsidies for corn-based ethanol production in the United States, corn prices have risen dramatically, producing a quadrupling of tortilla prices in Mexico.⁶⁸ These same policies also produce environmental problems, by leading to more intensive farming techniques and expansion of mono-crop agriculture.⁶⁹

It is also crucial to consider that trade *creates* wealth; it does not redistribute it.⁷⁰ When people engage in voluntary trade, there is more wealth after the trade than before it. (If there wasn't, people would not engage in the trade.) Since poverty is defined by the absence of wealth, the creation of wealth is fundamental to reducing poverty. Not only are the poor more likely to bear the brunt of any restrictions on trade relative to other groups, the absolute impact on the poor is also likely to be larger than on any other group.

Moreover, thinking about trade raises the critical question of to *which* poor we are to give a preferential option. The average caloric consumption in the industrialized countries is almost twice that in the poorest region of Africa.⁷¹ Environmental policy debates that fail to address improving lifestyles for the poor in developed economies cannot be said to be considering seriously the preferential option for the poor.

67. Special interest politics are a key reason for ethanol subsidies, but I am assuming that the ethanol program has an environmental goal here which makes the argument I am advancing stronger. See Jonathan H. Adler, *Rent Seeking Behind the Green Curtain*, 19 REGULATION No. 4, at 26 (1996), available at <http://www.cato.org/pubs/regulation/reg19n4b.html> (describing rent seeking in 1990s ethanol programs).

68. Manuel Roig-Franzia, *A Culinary and Cultural Staple in Crisis*, WASH. POST, Jan. 27, 2007, at A1, available at http://www.washingtonpost.com/wp-dyn/content/article/2007/01/26/AR2007012601896_pf.html.

69. See David Pimentel, *Ethanol Fuels: Energy Balance, Economics, and Environmental Impacts are Negative*, 12 NAT. RESOURCES RES., June 2003, at 127.

70. This is true of the rise of market economies generally. As economic historian Gregory Clark writes,

[G]rowth in capitalist economies since the Industrial Revolution strongly promoted greater equality. Despite fears that machines would swallow up men, the greatest beneficiaries of the Industrial Revolution so far have been unskilled workers.

CLARK, *supra* note 65, at 11.

71. Food and Agriculture Organization of the U.N., Statistics Division, Food Security Statistics (2007), http://www.fao.org/es/ess/faostat/foodsecurity/index_en.htm.

Proposition 9: Wealth increases the demand for environmental goods and services as well as reducing poverty.

Curing poverty implies making poor people wealthier. But wealth not only makes a person less poor, it also changes a person's preferences. At the most basic level, people demand many environmental goods and services after they have satisfied more basic needs for food and shelter. There is evidence of an environmental Kuznets curve with respect to at least some environmental quality issues, where demand increases once income per capita has exceeded about \$5,000 per year.⁷² Caring for the poor by helping to make them less poor is thus likely to have beneficial consequences for the environment. Addressing poverty is good for the environment as well as for the poor.

But wait—won't all those newly middle class people want cars, big screen TVs, and other consumer goods? Won't they want to move into larger, suburban homes? If we let the poor out of their inner-city ghettos, won't they want to be like the rest of us? And if they do become like us, won't they adopt lots of terrible middle class habits, like consuming more energy, more stuff, and more space? As Italian journalist Carla Ravaoli asked many of the world's leading economists in her book *Economists and the Environment*: what do we do when the Chinese all want cars?⁷³

It seems likely that the poor will want many of the things richer folks now have once they are no longer poor. They will want bigger houses with more energy-using appliances; they'll want new cars, and some may even want SUVs. They will buy more things, throw away the packaging, and only occasionally recycle. Is this bad news for the environment?

There are three possible responses to this question. The first is implicit in many environmental pressure groups' critiques of American society: Yes, it is an environmental disaster if poor people start acting like middle class Americans, particularly poor people in other countries. As a result, we need to find a way to keep the poor from developing our bad habits. Since this essentially means that the poor have to stay poor until some miraculous technological innovation appears to allow them to improve their living standards without causing any adverse environmental impact, I think anyone who takes seriously a preferential option for the poor must reject it outright. (Alternatively, some authoritarian solution might be adopted to reduce people's living standards who aren't currently poor to provide both an increased quality of life for the poor and an increased environmental quality.)

72. See BRUCE YANDLE, MADHUSUDAN BHATTARAI & MAYA VIJAYARAGHAVAN, PROP. & ENVTL. RESEARCH CENTER, ENVIRONMENTAL KUZNETS CURVE: A REVIEW OF FINDINGS, METHODS, AND POLICY IMPLICATIONS (2004), available at http://www.perc.org/pdf/rs02_1a.pdf.

73. CARLA RAVAIOLI WITH A CONTRIBUTION BY PAUL EKINS, *ECONOMISTS AND THE ENVIRONMENT* (Richard Bates trans., Zed Books 1995) (1984).

The second is to agree that the environmental impact of reducing poverty is likely to be negative but to accept it as inevitable. This is unacceptable as well. 1.322 billion Chinese driving the equivalent of Hummers (or, perhaps worse, Toyota Priuses)⁷⁴ would have a major environmental impact that likely would have a number of unacceptable consequences for the Chinese as well as the rest of the world.

The third response is the only one that is both likely and the only one that is morally acceptable. Among those 1.322 billion Chinese drivers are a vast number of poets, artists, musicians, engineers, scientists, lawyers, doctors, and people of every other human profession. Some one or more of those Hummer-driving new consumers may well be the person who finds a solution to some of these problems. As economist Julian Simon said, humanity is the "ultimate resource,"⁷⁵ and it is in humanity that we will find solutions to problems that seem unimaginably complex and unsolvable today. Man is a creative being, in no small part because we are made in the image of the One who created us. And we are to use our creativity: in the Parable of the Talents, it was the servants who received five and two talents and who invested them and earned returns for their lord who were bid to "enter into the joy of your lord" while the servant who received only one talent and who did nothing but hid the money to keep it safe was "cast into outer darkness."⁷⁶

CONCLUSION

It is beyond doubt that economics provides a useful description of important properties of the world in which we live (propositions 1–3), that its principles provide a useful guide to improving the environment (propositions 4–6), and that by understanding and heeding those principles we can harmonize our concern for the poor with our concern for the natural world (propositions 7–9). Together those support my bolder claim: that economics is a necessary, but not sufficient, component of moral analysis of environmental problems.

Proposition 10: Economic analysis provides moral clarity that enables us to provide a preferential option for the poor.

To make this case, let us consider three environmental dilemmas that implicate the demands of Christianity that we give a preferential option to

74. See CNW MARKETING RESEARCH, DUST TO DUST: THE ENERGY COST OF NEW VEHICLES FROM CONCEPT TO DISPOSAL (2005), available at <http://cnwmr.com/nss-folder/automotiveenergy/DUST%20PDF%20VERSION.pdf> (finding that environmental impact of Prius greater than that of Hummer).

75. See JULIAN L. SIMON, THE ULTIMATE RESOURCE (1981) and THE ULTIMATE RESOURCE II (1996).

76. Matthew 14:31 (King James).

the poor and ask what economics can contribute to the moral understanding of each.

Dilemma 1: Air pollution: reductions on the margin.

A major air pollution control initiative in the United States is EPA's proposed revision of the federal air quality standard for ozone. According to EPA's Regulatory Impact Analysis (RIA), reducing the acceptable level of ozone to 0.075 ppm from 0.084 ppm would cost between \$5.5 and \$8.8 billion and yield net benefits of \$7.3 to \$16 billion, depending on the assumptions and methods used to estimate the costs and benefits.⁷⁷ Although there are many questions about the validity of much of the science underlying the proposal,⁷⁸ let us accept these calculations as a reasonable estimate of the standard's costs and benefits.

Air pollution in developing countries is also a problem. The major air pollution problem in much of the world stems from the use of solid fuels indoors (in particular, the use of wood, dung, and crop residues) for heat and cooking.⁷⁹ The World Health Organization concluded that

Globally, reliance on solid fuels has emerged as one of the ten most important threats to public health. In 2000, indoor air pollution was responsible for more than 1.5 million deaths and 2.7% of the global burden of disease. In high-mortality developing countries, it accounted for 3.7% of the burden of disease, making it the most important risk factor after malnutrition, the HIV/AIDS epidemic and lack of safe water and adequate sanitation. Indoor air pollution disproportionately affects women and children who spend the most time near the domestic hearth.⁸⁰

Economic analysis provides a framework for comparing the impact of spending on reducing the level of ozone in the United States and on addressing indoor air pollution issues in developing countries. It is not an answer to this dilemma to say that we must do both, for resources spent on one are unavailable to the other. Given the resources we have, where should we spend those resources? An economic analysis puts the choice in stark terms, forcing us to confront the reality that a choice to focus our resources on the relatively small marginal improvements a more stringent ozone stan-

77. EPA, REGULATORY IMPACT ANALYSIS, EXECUTIVE SUMMARY, TBL. ES.2 (2008), available at <http://www.epa.gov/ttn/ecas/regdata/RIAs/ozoneriaexecsum.pdf>.

78. See, e.g., Joel Schwartz, *How Environmentalists and Scientists Mislead Americans About Air Pollution and Climate Change*, Planet Gore on National Review Online (Sept. 14, 2007) (critiquing the Natural Resources Defense Council's report, HEAT ADVISORY: HOW GLOBAL WARMING CAUSES MORE BAD AIR DAYS (2007)), available at <http://planetgore.nationalreview.com/post/?q=ZDNiNDIyODI0NTdiMjRlY2UyMTYxMmRiY2YyMzk4ZWY=>.

79. WHO, INDOOR AIR POLLUTION: NATIONAL BURDEN OF DISEASE ESTIMATES 1 (2007), available at http://www.who.int/indoorair/publications/indoor_air_national_burden_estimate_revised.pdf.

80. *Id.*

dard could bring can only be justified if we value the time and lives of Americans significantly more highly than we value the time and lives of the poor whose lives could be dramatically improved by addressing indoor air pollution. A full analysis of the details of the calculations necessary to make such an assessment is well beyond the scope of this paper, but even back-of-the-envelope calculations suggest that there is such an overwhelmingly larger marginal benefit possible from addressing indoor air pollution in the developing world than addressing ozone standards in the United States that the choice is likely to be obvious.

Dilemma 2: Trade in endangered species.

Both the Endangered Species Act (ESA) and the Convention on the International Trade in Endangered Species (CITES) prohibit virtually all trade in endangered species and products made from endangered species. In particular, there is a ban on trade in ivory products that is intended to help preserve African elephants. Philosopher David Schmidtz examined the incentives created by the ban and concluded that the result was to increase killing of elephants, as it turned elephants from a resource worth preserving into one with only negative economic impacts.⁸¹

But, as Schmidtz notes, preserving elephants also entailed killing some. Herds had to be culled to keep them within manageable sizes given the food supplies in nature preserves. Making the elephants the property of the neighboring villages gave the elephants' neighbors a reason to tolerate the destruction the elephants cause and helped the poor by providing them with a new economic resource. But giving the elephants to the villagers also meant the villagers would sell the right to hunt some of the elephants.

There are powerful reasons to find a preservation policy built around killing elephants unacceptable, including the fact that elephants are sufficiently self-aware to have some understanding of the death of their fellows. As Schmidtz summarizes, elephants

are not the kind of creature that we have a right to treat as mere means. Cynthia Moss [director of the Amboseli Elephant Research Project] . . . said she would rather see elephants go extinct than see individual animals murdered for sake of population control, and she is not alone. If elephants had a voice in the matter, perhaps they would thank Moss for her stand. Perhaps not.⁸²

Yet the problem is that preservationism alone will not preserve. As Schmidtz concludes

81. David Schmidtz, *When Preservationism Doesn't Preserve*, 6 ENVTL. VALUES 327 (1997), reprinted in ENVIRONMENTAL ETHICS: WHAT REALLY MATTERS, WHAT REALLY WORKS 320 (David Schmidtz & Elizabeth Willott eds., 2002) (discussing elephant preservation dilemmas).

82. *Id.* at 327.

I have come to realize that preservationism often and predictably does not work in the context of a social arrangement in which the cost of upholding preservationist ideals has to be born by people who do not embrace those ideals. Even given that preservationism is acceptable as a personal ideal, it remains a bad idea to create institutions that depend upon people who do not share that ideal to take responsibility for realizing it.⁸³

Preservationism does not preserve because it fails to take into account some of the basic economic propositions discussed in this article. Failing to do so means elephant preservation efforts will not succeed. It also means that the large numbers of poor people who live near elephants will suffer. As Schmidtz notes, elephants are pests when they are your neighbors—they trample crops and fences. Unless people can profit from the elephants, they have no reason to choose to tolerate the wildlife's depredations.⁸⁴ Taking care of the poor, by making them able to profit from the elephants, also became a way of taking care of the elephants, since it helped to ensure their survival as a species. Economic analysis provides a clear view of the institutions and their incentives necessary to this crucial insight. The choices are not easy, but without an economic framework they cannot be understood.

Dilemma 3: DDT and malaria.

The virtually world-wide ban of DDT was one of the most important early symbolic victories of the new environmental pressure groups that emerged in the 1960s and early 1970s.⁸⁵ Spurred by Rachel Carson's *Silent Spring*, environmentalists rallied against the pesticide and largely forced it from the scene. But DDT turns out to be remarkably effective in controlling malaria—a pestilence that kills the equivalent of the number of passengers in seven 747s per day⁸⁶—and its low cost makes it particularly well-suited for poorer, developing countries still plagued by the disease.⁸⁷

An economic analysis of the question of DDT use forces people to confront the tradeoffs between the environmental impact of DDT use and the cost in human lives and misery caused by foregoing its use. This is not an easy calculation to make, nor is the long delay by the developed world in responding to the growing crisis of malaria in many developing countries

83. *Id.* at 328.

84. *Id.* at 322 (“Whether we like it or not, the elephants will not survive except by sharing the land with people, which means their long-term survival depends on whether the people of Africa can afford to share.”).

85. See Morris & Meiners, *supra* note 38, at 23–27 (describing battles over DDT registration in the U.S.).

86. Afshin Molavi, *Africa's Malaria Death Toll Still 'Outrageously High'*, NAT'L GEOGRAPHIC NEWS, June 12, 2003, available at http://news.nationalgeographic.com/news/2003/06/0612_030612_malaria.html.

87. David Brown, *WHO Urges Use of DDT in Africa*, WASH. POST, Sept. 16, 2006, at A9, available at <http://www.washingtonpost.com/wp-dyn/content/article/2006/09/15/AR2006091501012.html>.

easy to forgive. Confronting such difficult choices is what we must do, if we are to come to terms with our responsibilities to the poor.

* * *

Economics is often called the dismal science. And its predictions can be dismal indeed for those who do not heed its counsel. But once we confront the world through the lens of economic thinking—as Terry Anderson of PERC said, through “Coase-colored glasses”⁸⁸—the dismal label seems inappropriate. Instead let us rejoice that God designed the world such that we do not depend on the goodness of our fellow men for our daily bread. Given the fallen nature of the world, I think it no accident that it is not, as Adam Smith famously observed “from the benevolence of the butcher, the brewer, or the baker, that we expect our dinner, but from their regard to their own interest. We address ourselves, not to their humanity but to their self-love, and never talk to them of our own necessities but of their advantages.”⁸⁹ If He had left us dependent on the good will of our neighbors for our suppers, humanity’s history would have been marked by a great deal of hunger. God did not put us into an abundant world to starve.

In addressing the needs of the poor and the demands of stewardship, good intentions are not enough; we must do what actually works. Markets work. The alternatives do not. That markets are a second best alternative necessitated by the fallen nature of our world is irrelevant if second best is all we can attain. We have lived in the epoch of legislation based on good intentions since the progressive era. Perhaps it is time we return to a world in which we recognize the limits of human-designed institutions such as governments and address our serious problems through institutions that utilize the insights of economic analysis and harness our innate self-interest in order to improve the lives of the poor while protecting that with which we have been entrusted. If we do so, I believe we will find that our obligations to be good stewards of God’s creation and to care for our less fortunate brethren are more readily and effectively addressed.

88. See generally Terry L. Anderson, *Donning Coase-Coloured Glasses: A Property Rights View of Natural Resource Economics*, 48 AUSTRL. J. AGRIC. & RESOURCE ECON. 445 (2004).

89. ADAM SMITH, AN INQUIRY INTO THE NATURE AND CAUSES OF THE WEALTH OF NATIONS I 26–27 (Liberty Fund 1981) (1776).